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(54) A BOOT FOR HORSES

(71) I, BRYAN FREDERICK LAWRENCE, of "Rylstone", Watton-at-Stone, Hertfordshire, England, British nationality, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a boot for horses.

Conventional horseshoes, that is to say, metal or nylon horseshoes of conventional shape have various disadvantages when fitted directly to the hoof, amongst which are that they are expensive and inconvenient to have fitted; they provide little or no traction on ice, snow, concrete or pavement; they provide little or no cushioning effect, so that no protection is given against shock to the hoof and leg when the horse is on hard or stony ground or is jumping; they provide no support for the frog part of the hoof; and they distort the way in which the hoof grows.

The present invention seeks to provide a boot which, with suitable arrangement, may alleviate many of the above disadvantages and may be easily and securely fitted to hoofs of different sizes. Accordingly, the invention provides a horse boot comprising a base portion for supporting a horse's hoof from the ground, a wall portion upstanding from the base portion peripherally thereof, the wall portion being at least partly flexible, being arranged for completely encircling the hoof and having overlapping portions, and there being provided adjustable fastening means having an actuating lever displaceable to adjust the degree of overlap thereby accommodating the wall portion to the size of the hoof to secure the boot to the hoof.

According to a preferred feature of the invention the actuating lever is displaceable past an over centre position to effect securement of the boot to the hoof.

Preferably the material of the wall portion is continuous around the periphery of the wall portion, the or each said overlap thereby forming a fold.

The base portion and the wall portion are integral with one another and formed of a single moulding of rubber or urethane. At its underside the base portion may be formed with a tread and/or it may have threaded inserts for attaching, for example, a conventional horseshoe.

In order that the invention may be more fully understood a horse boot embodying the invention will now be described, by way of example, with reference to the drawings, in which:—

Fig. 1 shows the boot in side elevation and with the fastening means not operative;

Fig. 2 is a perspective view from above showing the boot as it is when fitted to the horses hoof;

Fig. 3 is an underside plan view of the boot; and

Fig. 4 is a front elevation of the boot with the fastening means omitted for clarity.

Referring now to the drawings, a boot for horses comprises a moulding 1 having a relatively thick and substantially rigid base portion 2 which is generally plane and is formed on its underside with a tread 3. Upstanding from the base portion around the periphery thereof is a continuous, flexible wall portion 4 which generally conforms to a horses hoof, having a toe part 5 and a heel part 6. As can be seen from Figs. 1 and 4, the thickness of the wall portion 4 is small (e.g. 1:4) in relation to that of the base portion 2.

As is later to be described the boot is intended to fit closely over a horses hoof with the top free edge of the wall portion just below the top of the hoof. In order that the same boot may be fitted to hoofs of a range of different sizes, the wall portion is made larger in circumference than the circumference of the largest hoof to be fitted and is formed with two folds. These folds, denoted by the reference numeral 7, are formed one on either side of the toe part 5. Each fold is generally vertical and deepens in the direction towards the free upper edge of the wall portion.

In order to keep the folds closed in use,

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a toggle clip or lever 17 is pivotally mounted on the boot by means of a horizontal pin 8 engaging lugs integrally formed on a boot member 9. The foot member 9 is attached to the moulding 1 by studs 10, and extends vertically along the upper part of the toe part 5 centrally of the boot. For clarity the toggle clip 17 and the associated items 9 and 10 are omitted from Fig. 4. However, the holes 20 for receiving the studs 10 are shown in that Figure.

Also attached to the moulding 1 (and omitted from Fig. 4) are two attachment plates 11 disposed one on either side of the boot. Each plate 11 is integrally formed with three backwardly facing hooks 13 which are spaced along the boot in the fore-and-aft direction.

The foot member 9 previously described holds captive an endless loop of stainless steel wire 14. For operation, the boot is fitted into the hoof to be shod with this loop 14 loose (as shown in Figure 1), and the loop is hooked over an appropriate hook 13 on each of the attachment plates 11. With the toggle clip raised as shown by the broken lines in Fig. 1, the bight of the loop between the plates 11 is engaged behind an appropriate one of four further hooks 15 integrally formed at spaced intervals along the underside of the clip, and the clip is then pressed downwardly to apply tension to the loop 14. In its downward movement the clip is forced past an over-centre position so that the tension in the loop causes it to snap into a limited, stable position. The clip is then as shown by full lines in Fig. 2, the boot as a whole being shown in Fig. 2. The tension thus created and maintained in the loop 14 by the toggle clip 17 thereafter keeps the folds 7 closed while the boot is being used. The boot is thereby firmly kept in position on the hoof.

It will be appreciated that the determination of which of the hooks 13, 15 it is best to engage is largely by trial and error. However, this can be quickly effected and a good fit established over a wide range of different sizes of hoof. It is hoped that only three different sizes of boot will suffice for all the hoofs which are likely to be met.

The base portion 2 has threaded inserts 18 in its underside for enabling a conventional metal or nylon horseshoe (or alternatively a nylon plate) to be bolted beneath the boot for when long periods of road work are to be undertaken. The inserts are moulded into position when the moulding 1 is formed. For extreme conditions of ice or snow individual metal studs may be screwed into the inserts.

The moulding 1 is of rubber or urethane material which provides substantial rigidity to the base but has a compressive resilient property, and the toggle clip 17, the pin 8, the foot member 9, the studs 10, the attachment plates 11 and the inserts 18 are of aluminium or aluminium alloy.

In order to prevent excessive vertical movement between boot and hoof, it is desirable that the boot should be provided with a tread on the inner surface of the wall portion 4, particularly over the heel part 6 and at the sides. This tread is preferably provided by a moulded rubber insert member (not shown) which is attached to the wall portion 4 at the sides of the boot and extends around the back of the boot adjacent the inner surface of the wall portion 4. Conveniently the studs 16 provided for attaching the plates 11 also serve for attaching this insert member.

The horse boot is intended for use when the horse is being ridden, and is designed for easy removal for when the animal is to be put to grass or in a stable. However, the boot may also be used as a surgical boot for the treatment of nail punctures, abscesses and other hoof wounds. It helps to prevent and alleviate hoof cracks, contracted heels, corns, navicular disease, thrush and excessive hoof wear. It may be used on a hoof which is unshod, or which is already shod with a conventional metal or nylon horseshoe. By virtue of the substantial thickness of resilient material of the base portion 2, the shoe provides cushioning which reduces impact-caused hoof and leg injuries such as are often incurred during jumping and when moving on hard and stoney ground.

In one modification of the described boot the material of the wall portion 4 is discontinuous at each of the folds 7, so that simple overlaps are formed. The discontinuities may extend over the full height of the wall portion, or, like the folds 7 as shown, they may stop short of the base portion 2. Like the folds 7, these simple overlaps are variable in extent to accommodate the wall portion to the hoof. Although two folds are used in the described boot, one or three or more folds (or overlaps) could alternatively be used.

In further possible modifications of the described boot the inserts 18 are omitted.

WHAT I CLAIM IS:—

1. A horse boot comprising a base portion for supporting a horse's hoof from the ground, a wall portion upstanding from the base portion peripherally thereof, the wall portion being at least partly flexible, being arranged for completely encircling the hoof, and having overlapping portions, and there being provided adjustable fastening means having an actuating lever displaceable to adjust the degree of overlap thereby accommodating the wall portion to the size of the hoof to secure the boot to the hoof.

2. A horse boot as claimed in claim 1

wherein the actuating lever is displaceable past an over centre position to effect securement of the boot to the hoof.

3. A horse boot as claimed in claim 1 or claim 2 wherein the lever is provided with a loop arranged to provide tension transversely of the or each overlap to effect securement when the lever is moved to a securing position.

4. A horse boot as claimed in any one of claims 1 to 3, wherein the material of the wall portion is continuous around the periphery of the wall portion, the or each said overlap thereby forming a fold.

5. A horse boot as claimed in any one of claims 1 to 4 wherein the lever is formed with a plurality of hooks at spaced positioning to one side of a pivot and is attached to the wall portion on one side of an overlap thereof, a further member formed with a plurality of hooks is attached to the wall portion on the other side of said overlap, and the loop is engageable over a selected hook of each member to adapt the boot to different sizes of hoof.

6. A horse boot as claimed in claim 5, wherein the wall portion is formed with two said overlaps and the lever is mounted between these overlaps, the boot comprising two said further member one for each overlap and mounted on the opposite side of the overlap to the lever, the loop being arranged for engaging a said hook on each further member and a said hook on the lever.

7. A horse boot as claimed in claim 6, wherein the lever is attached to the wall portion by a foot member, and the loop is held captive on said foot member.

8. A horse boot as claimed in claim 7, wherein the lever and the foot member are of aluminium or aluminium alloy.

9. A horse boot as claimed in any preceding claim, wherein the base portion is formed with a tread on its underside.

10. A horse boot as claimed in any preceding claim, which includes threaded inserts in the underside of the base portion for providing bolting attachments for one or more ground-contacting shoe, plate or stud members.

11. A horse boot as claimed in any preceding claim, wherein the base portion and the wall portion are integral with one another, being provided by a single moulding.

12. A horse boot as claimed in claim 11, wherein the moulding is of rubber or urethane.

13. A horse boot as claimed in claim 11 or 12, which includes an insert member disposed within the boot adjacent the wall portion for reducing relative vertical movement of the boot and a hoof to which the boot is fitted, the member being formed separately from the moulding but attached thereto.

14. A horse boot as claimed in claim 13, wherein the insert member is of rubber.

15. A horse boot substantially as described herein with reference to, or as illustrated in, the drawings.

For the Applicant,
J. F. WILLIAMS & CO.,
Chartered Patent Agents,
113 Kingsway,
London, WC2B 6QP.

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2 SHEETS This drawing is a reproduction of the Original on a reduced scale
Sheet 1

FIG. 1

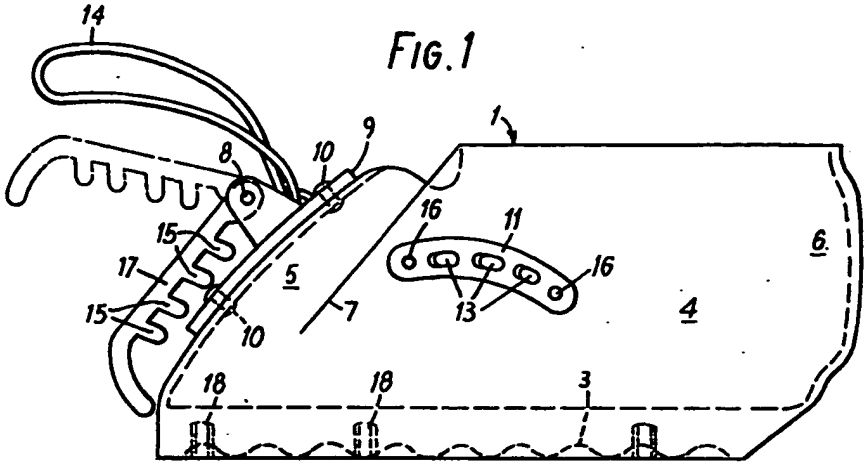
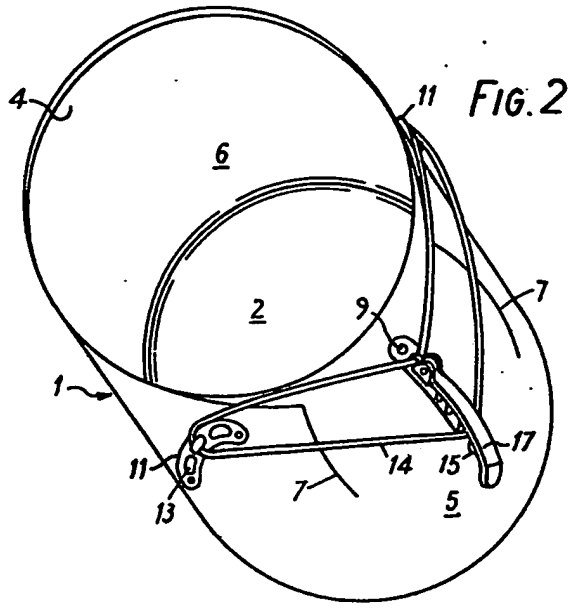


FIG. 2



1408336 COMPLETE SPECIFICATION
2 SHEETS *This drawing is a reproduction of the Original on a reduced scale*
Sheet 2

FIG. 3

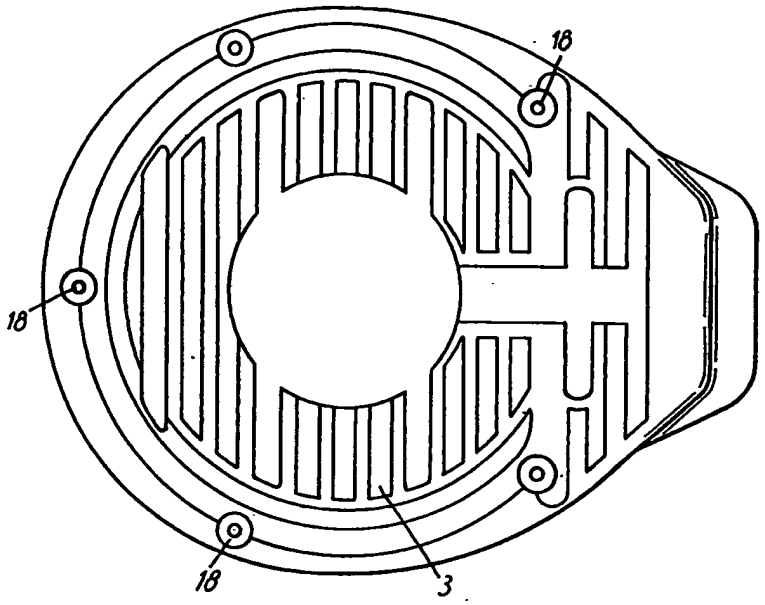


FIG. 4